**ANIMAL LOG** 12/20/2005

The following is data documentation for animal log records collected by the Pelagic Observer Program (POP) of the Southeast Fisheries Science Center (SEFSC) for the U.S. pelagic longline fleet. The data also includes records collected by the Northeast Fisheries Science Center (NEFSC) as part of their sea sampling program; in 1999 data collected by the NEFSC on board U.S. pelagic longline vessels were added to the POP database by incorporating the data fields that were common to both databases. At that time efforts were made to ensure that the information was collected in a consistent manner; however the user should understand that this documentation is based on POP protocols, standards, training, and institutional memory, which may vary somewhat from those of the NEFSC. NEFSC data represents about 11% of the trips observed.

Below, each data field is explained in detail sufficient for most user's needs. Additional information on the POP; including observer training materials, technical memoranda, and POP staff contact information, can be found on the POP website at www.sefsc.noaa.gov/pop.jsp

**DATA FIELDS:**

**TRIP_NUMBER**

This is 3-6 character field that identifies a single observed trip. "Observed trips" are defined as an observer spending time at sea on the vessel, regardless of whether or not the vessel conducted any fishing operations. For example, if a vessel departs the dock, and returns after 2 days due to a hydraulic failure without ever deploying fishing gear, and due to logistical considerations the observer does not re-embark on the vessel after the repairs are made, this is still considered a "trip" and is assigned a trip number. However, trips with no fishing activity do not appear in the database. This explains skips in otherwise consecutive trip numbers (e.g. ..M14, M15, M17…).

TRIP_NUMBER (sometimes referred to as trip ID number)is used to relate all records collected during a single trip together. It is found on all observer logs and forms. Trip numbers for SEFSC observers were originally 3 characters long and constructed by assigning an alphabetic letter to an individual observer who would then use that

letter plus the sequential two digit number trip to create the trip ID number (e.g. P01, P02, P03…..etc.). By 2000 there had been sufficient turnover of observers that all letters of the alphabet had been assigned; therefore a 6-character TRIP_NUMBER was implemented. Observers already in the system kept their alphabetic identifier, but added a numeric portion (e.g. "P" became "P01") and the sequential trip number was increased to three characters (e.g. …P50, P51, P01052, P01053,….). Where alphabetic letters were reused, distinctions between different observers were made by the numeric portion of the observer identifier (e.g. D03001 and D04001 were two separate trip made by two separate observers).

NEFSC trip ID numbers followed a different system and sorting trips by individual observers cannot be done. NEFSC trips can be identified as those trips where the TRIP_NUMBER is greater than three characters long, during the time period 1992-1999. In 2000 trips A25006, B49004, B56038, and B48023 were conducted by NEFSC observers. After 2000, no trips were conducted by NEFSC observers.

**BEGIN_HAUL_DATE**

Indicates the date that the haul was begun (defined as the calendar date when the first piece of gear is removed from the water, almost invariably a high flyer or radio beacon- see gear log documentation for definitions).

**HAUL_NUMBER**

Hauls are numbered sequentially starting at 1 for each trip. Catch (animal log information) is related back to effort (haul log information) through this field.

**CARCASS_TAG_NUMBER**

This field generally indicates the number of a tag that is placed by the observer on fish that are going to be retained for sale. Because individual fish are weighed on the dock at the conclusion of the trip, this process allows a weight to be recorded for individual animals on the observer's data sheets. Carcass tag numbering systems are left up to the observer's discretion; they are unique **within** a trip but may be reused among trips.

Two other types of numbers may appear in this field: turtle specimen numbers (starting with 1 for the first turtle encountered, and numbered sequentially with a trip), and sample numbers, which are assigned if a biological sample is taken for a fish that is not retained (i.e., for which a carcass tag is not attached).

Note: this field has been confused in the past with "tags" used in fish tagging: tagging a live fish with a dart type or other type tag and releasing it. This field has no relation to this type of tagging, which is recorded in two fields explained below.

**ALPHA_SPECIES_CODE**

This field indicates, in a three-letter code, the species caught (see species code list). Although observers attempt to identify each animal to species, in many cases absolute identification is impossible (in the pelagic longline fishery most bycatch is not brought on board but released in the water; also animals may break the line as they are being retrieved) and observers can use a variety of generic codes (SHX, TUN, BIL, etc).

The ability of observers to correctly identify species depends, to a certain degree, on the amount and quality of training given them and the experience level of the observer. Since both these factors have changed with time, there may be some unquantifiable bias in the data. Analysts who are investigating species where correct identification is difficult may wish to contact the POP staff.

Finally, new species codes have been added over time. In some cases these new codes may affect analyses. For example, the codes for pelagic stingrays (*Dasyatis violacea*), "PEL", and manta rays (Mobulidae), "MAN", were introduced in 2004; previously all rays were recorded by observers as "SRX". A generic code for requiem sharks (*Carcharhinus sp.*), "SRQ", was also added in 2004; previously carcharhinids that could not be positively identified where recorded as "SHX" (along with all other unidentifiable sharks).

**BOARDING_STATUS**

Indicates the condition of the animal as it is brought on board (or brought boat side in the case of animals that are not going to be brought aboard) according to the following codes:

0 = Unknown
1 = Alive
2 = Dead
3 = Damage

These codes are self explanatory except for 3 ("damage"). Damage is defined as a wound caused by the act of capture that reduces the market value of the fish or prevents normal length measurements from being taken. Wounds are most often caused by predation (examples include shark or mammal bites) but sometimes result from the gear or vessel interactions (e.g. fish pulled into the vessel's propeller). Note that this code trumps the other codes in this field; damaged fish may be either alive or dead when brought boat side. In more recent data (2002 to present) damage may be more fully explained in the COMMENTS field in regards to both the type of damage and percentage amount of damage.

**KEPT_OR_RELEASED**

This field (also referred to as "action") indicates what happened to the animal after it was brought aboard or brought boat side, according to the following codes:

0 = Released, unknown status
1 = Kept for sale
2 = Released dead
3 = Released alive
5 = Lost at surface

Note the definition of "Kept" assumes the animal was landed and sold. This is to aid conformity with landings data via dealer reports. Fishermen occasionally keep legal size fish to eat during the trip, or sometimes to take home for their personal consumption; such fish are not coded as 1,

they are coded as 2 (released dead). Fish kept but not sold should be clarified in the COMMENTS field.

**KEPT_OR_RELEASED2**

This field may further refine the previous field (KEPT_OR_RELEASED), according to the following codes:

4 = Finned
6 = Tended

This allows for a more detailed description; for example a shark that is "Kept" may or may not have the fins kept as well, it also allows identification of individual fish that were caught by line tending (see definition in the Haul Log documentation.

**LENGTH_MEASUREMENT_ONE**

Indicates (in centimeters) the primary length measurement of the animal. Different types of primary measurements are taken for different species or species groups:

Swordfish and billfish: tip of lower jaw to fork of tail.
Tunas and finfish: tip of upper jaw to fork of tail.
Sharks: tip of snout to fork of tail.
Skates and rays: wing tip to wing tip.
Turtles: notch to tip (carapace).
Marine mammals: overall length.
Sea birds: wing tip to wing tip.

Note that "Finfish" include all teleosts exclusive of swordfish, billfish, and tunas. Examples include dolphinfish, *Cubiceps sp.*, Molas, etc.).

Over the years various changes in priorities has resulted in a reduction of observers taking multiple length measurements of the same animal.

**LENGTH_MEASUREMENT_TWO**

This field indicates (in centimeters) the secondary length measurement of the animal. Different types of secondary measurements are taken for different species or species groups:

Swordfish: cleithral arch to the anterior rise of the caudal keel (commonly referred to as "CK" length)
Billfish and tuna: anterior insertion of pectoral fin to fork of tail.
Sharks: tip of snout to end of caudal fin (commonly referred to as total length).
Turtles: carapace width.
Finfish: no secondary measurement taken.
Skates and rays: no secondary measurement taken.
Marine mammals: no secondary measurement taken.
Sea birds: no secondary measurement taken.

Note: the NEFSC took some secondary measurements on some finfish and skates/rays, however it is not clear what these measurements were.

**LENGTH_MEASUREMENT_THREE**

This field indicates (in centimeters) the tertiary length measurement of the animal. Different types of tertiary measurements are taken for different species or species groups:

Tunas: anterior insertion of pectoral fin to anterior rise of the caudal keel.
Billfish: anterior insertion of pectoral fin to anal opening.
Sharks: posterior insertion of first dorsal fin to anterior rise of second dorsal fin.
Swordfish, finfish, turtles, skates/rays, marine mammals, and sea birds: no tertiary measurements taken. In some rare cases an observer might have taken a tertiary measurement for one of these species; however it is unclear as to exactly what kind of measurement was taken.

**LENGTH_MEASUREMENT_TAKEN_CODE**

Indicates how the preceding measurements were taken according to the following codes:

1 = Straight measurement
2 = Curved measurement
3 = Estimated measurement

Straight measurements are straight line measurements sometimes called "caliper measurements" however note that observers were not issued calipers. Curved measurements are taken along the midline, following the contour of the body. Estimated measurements are most commonly taken when an animal is not brought on board; observers are instructed to estimate the **primary** measurement to the nearest foot and then convert to centimeters, however over the years some estimated measurements have been taken to the nearest centimeter.

**DRESSED_WEIGHT**

This field indicates the dressed weight of the animal, to the nearest pound, upon weigh-out at the dock after the trip. "Dressed weight" is defined for swordfish and sharks as head off, fins and tail off, and gutted. For tuna dressed weight is generally head off, gutted, with some fins removed (normally one pectoral fin is left intact). For other finfish (e.g. dolphin fish and wahoo), dressed weight is normally head on and gutted. Dressing procedures outside the norm will sometimes be detailed in the comments section.

Note that it is common fish house practice to "round down" when weighing fish; so a fish that weighs 30.5 lbs (or even 30.6, 30.7, etc) on a digital scale will be recorded as 30 lbs. Observers, who in most cases are present at the weigh out, are instructed to follow normal rounding procedures (> or = 0.5 gets rounded up) when recording weights. For this reason observer recorded weights may not exactly match weights submitted by dealers.

Finally, occasionally fish that are significantly damaged are retained by the fishery. These fish are normally sold at a reduced rate and called "chunks". Weights of any chunk fish are **not** recorded by observers.

**SEX**

Indicates the gender of the animal according to the following codes:

1 = Male
2 = Female
0 = Unknown

**TAG_NUMBER**

This field indicates the use or presence of scientific tags with associated tag number if this animal is either tagged and released, or recaptured with a tag. Tag numbers may be entirely numeric or contain both alphabetic and numeric characters, depending on the system used by the tagging program. Characters in this field represent one single tag with the exception of flipper tags placed on turtles; in this case when two tags are either present or applied by the observer both numbers are placed in this field (e.g. tags XXG123 and XXG124 appear as XXG123XXG124). Also in the case of turtles, observers may apply multiple tags; for example 2 flipper tags, one PIT tag, and a satellite tag, in this case only the flipper tags will appear in this field, the other tag numbers should appear in the COMMENTS field.

**TAG_ACTION**

If a value appears in the TAG_NUMBER field, this field will indicate the origin of the tag according to the following codes:

1 = Tagged and released
2 = Tag already present and released with second tag
3 = Tagged fish recaptured

**ESTIMATED_WEIGHT**

This field indicates, in pounds, the estimated whole weight of a fish (also referred to as “round” weight). Observers are instructed to attempt to estimate this weight for all tag released animals. Estimating round weights on other animals is optional.

**COMMENTS**

This field contains information that clarifies or expands on information collected in other fields, or provides information that does not pertain to any other field. Note that use of comments by observers in the animal log data was rare before 2001, but was encouraged at that time.